

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/CH2004/000212

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language _____, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-7 _____ as originally filed/furnished
- pages* _____ received by this Authority on _____
- pages* _____ received by this Authority on _____
- ☒ the claims:
- nos. 12-17 _____ as originally filed/furnished
- nos.* _____ as amended (together with any statement) under Article 19
- nos.* 1-11 _____ received by this Authority on 30.11.2004 with letter
- nos.* _____ received by this Authority on of 12.11.2004
- ☒ the drawings:
- sheets 1/3-3/3 _____ as originally filed/furnished
- sheets* _____ received by this Authority on _____
- sheets* _____ received by this Authority on _____
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages _____
- ☐ the claims, nos. _____
- ☐ the drawings, sheets/figs _____
- ☐ the sequence listing (*specify*): _____
- ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/CH2004/000212

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-4	YES
	Claims	5-11	NO
Inventive step (IS)	Claims	1-4	YES
	Claims	5-11	NO
Industrial applicability (IA)	Claims	1-11	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

1 WO-9730654 was not cited in the international search report. A copy of the document is attached.

2 INDEPENDENT CLAIM 1

The present application meets the requirements of PCT Article 33(1), because the subject matter of claim 1 is novel within the meaning of PCT Article 33(2).

Prior art

WO9730654 (D3) discloses a method for producing a cylindrical blank made of a ceramic material for dental prostheses, the material being isostatically pressed onto a pin (page 12, lines 9-13).

Differences

The subject matter of claim 1 differs from the method known from D3 in that a pressed piece is formed from which a multitude of discoid blanks (3) of various thicknesses are cut at a right angle to the axis of said pressed piece.

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reasoning

The zirconium oxide material in D3 is pressed onto a pin, thereby producing a tube shape, the exterior of which is machined. The prior art contains nothing that suggests cutting a hollow shape of this type into a multitude of discoid blanks. This is neither known from nor rendered obvious by the cited documents. Therefore, claim 1 involves an inventive step (PCT Article 33(3)).

2 DEPENDENT CLAIMS 2-4

Claims 2-4 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.

3 INDEPENDENT CLAIM 5 AND DEPENDENT CLAIMS 6-8

3.1 The present application does not meet the requirements of PCT Article 33(1), because the subject matter of claim 5 does not involve an inventive step within the meaning of PCT Article 33(3).

3.2 Machining a blank to form dental prostheses when it has not been subjected to final sintering is known; see, for example, D1 (page 1, lines 13-24). Therefore, the subject matter of claim 5 is not inventive.

3.3 A person skilled in the art is familiar with

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

selecting the temperature and duration of the final sintering process such that a final product with optimal characteristics is achieved. Furthermore, D3 discloses the selection of a final sintering temperature of 1500°C for zirconium oxide (see claim 14). Therefore, the subject matter of claims 6-8 is not inventive.

4 INDEPENDENT CLAIM 9

The present application does not meet the requirements of PCT Article 33(1), because the subject matter of claim 9 lacks an inventive step within the meaning of PCT Article 33(3).

- 4.1 D2 is regarded as the closest prior art. It discloses (the reference signs in parentheses refer to D2):
- a machining station suitable for producing dental prostheses (32), the machining station being designed based on a guided metal cutting system (see column 3, line 22), the machining station being equipped with a mounting device (20) and at least one milling cutter, and the mounting tool having means for frictionally mounting a blank (40), and the parallel or quasi-parallel surfaces of the blank to be machined being machinable by passing them through the milling cutter at a right angle or virtually at a right angle, from which the subject matter of independent

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

claim 9 differs in that the mounting device in D2 is not **pivotally** arranged.

This feature is regarded as a minor structural detail.

Therefore, the subject matter of claim 9 is not regarded as inventive (PCT Article 33(3)).

- 4.2 In order to be able to machine occlusal and cavital forms of the dental prosthesis, the angle between the surface of the blank to be machined and the milling cutter should be modifiable. This can be achieved by rotatably mounting the blank or by positioning the cutter in a modifiable manner. It is obvious that in the machining of the blank in D1 and D2, the cutter can assume a modifiable position. A rotatable mounting device is an alternative solution with the same effect. Therefore, the subject matter of claim 10 is not inventive.

- 4.3 D1 discloses a blank having a frame (12) mounted in a holder (24) on its peripheral edge. With respect to the feature of frictional mounting, D1 describes the same advantages as those resulting from the concentric turned groove in the present application. Therefore, a person skilled in the art would regard the inclusion of a concentric groove in the blank (10) as an alternative design measure for solving the

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/CH2004/000212

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

problem of interest. Therefore, the subject
matter of claim 11 is not inventive.